



Inland Counties Emergency Medical Agency

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Serving San Bernardino, Inyo, and Mono Counties
Tom Lynch, EMS Administrator
Reza Vaezazizi, MD, Medical Director

DATE: March 13, 2019

TO: EMS Providers - ALS, LALS, BLS, EMS Aircraft
Hospital CEOs, ED Directors, Nurse Managers and PLNs
EMS Training Institutions and Continuing Education Providers
Inyo, Mono and San Bernardino County EMCC Members
Medical Advisory Committee (MAC) Members
Systems Advisory Committee (SAC) Members

FROM: Tom Lynch
EMS Administrator

Reza Vaezazizi, MD
Medical Director

SUBJECT: 30-DAY NOTIFICATION FOR PUBLIC COMMENT

Public comment for the policies/protocols listed below will occur at the next Medical Advisory Committee meeting on April 25, 2019, 1:00 pm, at the ICEMA office. Please review and bring suggestions for modification to the meeting.

ICEMA Reference Number and Name

- 6070 Cardiovascular ST Elevation Myocardial Infarction Receiving Centers Designation Policy
- 6100 Neurovascular Stroke Receiving Centers Designation Policy
(San Bernardino County Only)
- 8120 Continuation of Care (San Bernardino County Only)
- 8130 Destination Policy
- 11060 Suspected Acute Myocardial Infarction (AMI)
- 11070 Cardiac Arrest - Adult
- 11110 Stroke Treatment - Adult
- 12010 Determination of Death On Scene
- 14040 Cardiac Arrest - Pediatric

TL/RV/SK/jlm

Enclosures

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**30-DAY NOTIFICATION FOR PUBLIC COMMENT
MARCH 13, 2019**

Reference #	Name	Changes
DELETIONS		
NEW		
1000 ACCREDITATION AND CERTIFICATION		
None		
2000 DATA COLLECTION		
None		
3000 EDUCATION		
None		
4000 QUALITY IMPROVEMENT		
None		
5000 MISCELLANEOUS SYSTEM POLICIES		
None		
6000 SPECIALTY PROGRAM/ PROVIDER POLICIES		
6070	Cardiovascular ST Elevation Myocardial Infarction Receiving Centers Designation Policy	Policy name change to ST Elevation Myocardial Infarction Critical Care System Designation and update for compliance with California Code of Regulations, Title 22, Division 9, Chapter 7.1.
6100	Neurovascular Stroke Receiving Centers Designation Policy <i>(San Bernardino County Only)</i>	Policy name change to Stroke Critical Care System Designation and update for compliance with California Code of Regulations, Title 22, Division 9, Chapter 7.2.
7000 STANDARD DRUG & EQUIPMENT LISTS		
None		
8000 TRANSPORT/TRANSFERS AND DESTINATION POLICIES		
8120	Continuation of Care <i>(San Bernardino County Only)</i>	Clarification on continuation of care from one specialty care center to another specialty care center.
8130	Destination Policy	Policy update for base hospital contact and specialty care destination.
9000 GENERAL PATIENT CARE POLICIES		
None		
10000 SKILLS		
None		

**30-DAY NOTIFICATION FOR PUBLIC COMMENT
MARCH 13, 2019**

11000 ADULT EMERGENCIES		
11060	Suspected Acute Myocardial Infarction (AMI)	Alignment with destination policy updates.
11070	Cardiac Arrest - Adult	Addition of High Performance CPR. Clarification of termination of resuscitation efforts and stable ROSC patients. Delaying advanced airway if BLS airway is managed effectively. Removal of King Airway.
11110	Stroke Treatment - Adult	Addition of LAMS severity score.
12000 END OF LIFE CARE		
12010	Determination of Death On Scene	Clarification to policy.
13000 ENVIRONMENTAL EMERGENCIES		
None		
14000 PEDIATRIC EMERGENCIES		
14040	Cardiac Arrest - Pediatric	Addition of High Performance CPR. Clarification of stable ROSC patients.
15000 TRAUMA		
None		



~~CARDIOVASCULAR~~ ST ELEVATION MYOCARDIAL INFARCTION CRITICAL CARE SYSTEM RECEIVING CENTERS DESIGNATION POLICY

I. PURPOSE

~~To establish standards for the designation of an acute care hospital as a A Cardiovascular ST Elevation Myocardial Infarction (STEMI) Receiving Center. (SRC) will be the preferred destination for patients who access the 9-1-1 system meeting the defined criteria and show evidence of a STEMI on a 12-lead electrocardiogram (ECG). These patients will benefit from rapid interventions via cardiac catheterization interventions.~~

II. POLICY

~~Hospital requirements for Inland Counties Emergency Medical Agency (ICEMA) STEMI Receiving Center designation: The following requirements must be met for a hospital to be designated receiving as a SRC by ICEMA:~~

- ~~• Must be a full service general acute care hospital approved by An ICEMA as approved a 9-1-1 receiving hospital, which is a full service general acute care hospital.~~
- ~~• Have a Licensure as a Cardiac Catheterization Laboratory (Cath Lab).~~
- ~~• Must be accredited by the American College of Cardiology (ACC) as a Chest Pain Center Center with Primary Percutaneous Percutaneous Coronary Intervention (PCI).~~
- ~~• Intra-aortic balloon pump capability.~~
- Cardiovascular surgical services permit.
- ~~• Must be in Compliance with all requirements listed in the California Code of Regulations, Title 22, Division 9, Chapter 7.1, STEMI Critical Care System Regulations.~~
- ~~• An alert/communication system for notification of incoming STEMI patients, available twenty four (24) hours per day, seven (7) days per week (i.e., in-house paging system).~~
- ~~• Provide continuing education (CE) opportunities twice per year for emergency medical services (EMS) field personnel in areas of 12-lead ECG acquisition and interpretation, as well as assessment and management of STEMI patients.~~

III. STAFFING REQUIREMENTS

The hospital will have the following positions filled prior to becoming a STEMI Receiving Center~~SRC~~:

- Medical Directors

The hospital shall designate two (2) physicians as co-directors who are responsible for the medical oversight and ongoing performance of the STEMI Receiving Center program.~~of its STEMI receiving center SRC program.~~ One (1) physician shall be a board certified interventional cardiologist with active Percutaneous Coronary Intervention (PCI) privileges. The co-director shall be a board certified emergency medicine physician with active privileges to practice in the emergency department.

- Nursing Coordinator~~STEMI Program Manager~~

The hospital shall designate a STEMI Program Manager~~-SRC Nursing Coordinator~~ who is responsible for monitoring and evaluating STEMI patients. This includes participation in performance improvement and patient safety programs related to a STEMI critical care system. The STEMI Program Manager must be trained or certified in cCritical cCare nursing and have continuing education in STEMI physiology or at least has two (2) years dedicated STEMI patient management experience.

- On-Call Physician Consultants and Staff

On-call physicians consultants and staff must be promptly available within 30 minutes from notification. A daily roster must include ~~of~~ the following on-call physician consultants and staff: ~~that must be promptly available within thirty (30) minutes of notification.~~

- Interventional Cardiologist with PCI privileges in PCI procedures.
- Cardiovascular Surgeon with privileges in Coronary Artery Bypass Grafting.
- Cardiac Catheterization~~Cath~~ Laboratory Team.
- Intra-aortic balloon pump nurse or technologist.

- Registrar

At least one (1) full time registrar dedicated to process the ICEMA data for each 500 - 750 patients in the registry. Staffing needs may increase if additional data elements are collected.

- ~~• Emergency Department Liaison Nurse~~

~~The non-base hospital shall designate an SRC Emergency Department Liaison Nurse who has a minimum of two (2) years emergency department experience to facilitate communication and education between the Cath Lab, emergency department and EMS field personnel.~~

IV. INTERNAL STEMI RECEIVING CENTER ~~HOSPITAL~~ POLICIES

The STEMI Receiving Center must have:

- ~~• The capability to provide STEMI patient care 24 hours per day, seven (7) days per week.~~
- ~~• A single call alert/communication system for notification of incoming STEMI patients, available 24 hours per day, seven (7) days per week (i.e., in-house paging system).~~
- ~~• A process for the treatment and triage of simultaneously arriving STEMI patients.~~
- ~~• A fibrinolytic therapy protocol to be used only in unforeseen circumstances when PCI of a STEMI patient is not possible.~~
- ~~• Prompt acceptance of STEMI patients from STEMI Referral Hospitals that do not have PCI capability. To avoid prolonged door to intervention time the STEMI base hospitals are allowed to facilitate redirection of STEMI patients to nearby STEMI receiving centers. Physician to physician contact must be made when redirecting patients.~~
- ~~• Acknowledgement that STEMI patients may **only** be diverted during the times of Internal Disaster in accordance to ICEMA Reference #8060 - Requests for Hospital Diversion Policy (San Bernardino County Only). A written notification describing the event must be submitted to ICEMA within 24 hours.~~

~~The hospital shall develop internal policies for the following situations:~~

- ~~• Fibrinolytic therapy protocol to be used only in unforeseen circumstances when PCI of a STEMI patient is not possible.~~

~~Acknowledgement that STEMI patients may **only** be diverted during the times of Internal Disaster in accordance to ICEMA Reference #8060 - Requests for Hospital Diversion Policy (San Bernardino County Only) (applies to physical plant breakdown threatening significant patient services or immediate patient safety issues, i.e., bomb threat, earthquake damage, hazardous material or safety and~~

~~security of the hospital). A written notification describing the event must be submitted to ICEMA within twenty four (24) hours.~~

- ~~● Prompt acceptance of STEMI patients from other SRHs that do not have PCI capability. STEMI diversion is not permitted except for internal disaster. Refer to ICEMA Reference #8120 Continuation of Care (San Bernardino County Only). However, STEMI base hospitals are allowed to facilitate redirecting of STEMI patients to nearby SRCs when the closest SRC is over capacity to avoid prolonged door to intervention time. SRC and base hospitals shall ensure physician to physician contact when redirecting patients.~~
- ~~● Cath Lab Team activation policy which requires immediate activation of the team upon EMS notification when there is documented STEMI patient en route to the SRC, based on machine algorithm interpretation.~~

V. DATA COLLECTION

All required data elements shall be collected and entered in an ICEMA approved STEMI registry on a regular basis and submitted to ICEMA for review. All hospitals including STEMI receiving centers must participate in Cardiac Arrest Registry to Enhance Survival (CARES).

VI. CONTINUOUS QUALITY IMPROVEMENT (CQI) PROGRAM

STEMI Receiving Centers SRC shall develop an on-going CQI program which monitors all aspect of treatment and management of suspected STEMI patients and identify areas needing improvement. The program must, at a minimum, monitor the following parameters:

- Morbidity and mortality related to procedural complications.
- Detail review of cases requiring emergent rescue Coronary Artery Bypass Graph (CABG).
- Tracking of door-to-dilation time and adherence to minimum performance standards set by ICEMA policy, contractual agreement, California Regulations, and the ACC this policy.
- Detailed review of cases requiring redirection of EMS STEMI patients to other STEMI Receiving Centers SRCs as a result of SRC over capacity and prolonged delay of door-to-intervention time.
- Active participation in each ICEMA STEMI CQI Committee and STEMI regional peer review process. This will include a review of selected medical

records as determined by CQI indicators and presentation of details to peer review committee for adjudication.

- Provide Continuing Education (CE) opportunities twice per year for emergency medical services (EMS) field personnel in areas of 12-lead ECG acquisition and interpretation, as well as assessment and management of STEMI patients.
- Programs in place to promote public education efforts specific to cardiac care.

VII. PERFORMANCE STANDARD

Compliance with all California State regulations, ICEMA policies, and the ACC performance measures. American College of Cardiology performance measures as a Chest Pain with PCI.

VIII. DESIGNATION

- The STEMI Receiving Center SRC applicant shall be designated after satisfactory review of written documentation, ~~and a potential n initial~~ site survey by ICEMA, ~~or its designees and and~~ completion of a board approved agreement between the STEMI Receiving Center hospital and ICEMA.
- ~~Accreditation by the Society of Cardiovascular Patient Care.~~
- Initial designation as a STEMI Receiving Center SRC shall be in accordance with terms outlined in the agreement.
- Failure to comply with the approved agreement, ~~or ICEMA policy criteria and performance standards outlined in this policy~~ may result in probation, suspension, finer or rescission of STEMI Receiving Center SRC designation.

IX. REFERENCES

<u>Number</u>	<u>Name</u>
8060	Requests for Hospital Diversion Policy (San Bernardino County Only)
8120	Continuation of Care (San Bernardino County Only)



NEUROVASCULAR STROKE RECEIVING CENTERS CRITICAL CARE SYSTEM DESIGNATION POLICY

(San Bernardino County Only)

I. PURPOSE

~~To establish standards for the designation of an acute care hospital as a Stroke Receiving Center. To provide developing guidelines to rapidly transport stroke patients who access the 9-1-1 system to a designated Neurovascular Stroke Receiving Center (NSRC) when indicated. Patients transported to NSRC will benefit from rapid assessment, intervention and treatment at a dedicated stroke specialty center. Patients will meet the defined criteria for triage as an acute ischemic or hemorrhagic cerebral vascular event.~~

II. POLICY

~~Hospital requirements for Inland Counties Emergency Medical Agency (ICEMA) Stroke Receiving Center designation: The following requirements must be met for a hospital to be an ICEMA designated NSRC:~~

- ~~• Must be a full service general acute care hospital approved by ICEMA as a 9-1-1 receiving hospital. An ICEMA approved receiving hospital which is a full service general acute care hospital.~~
- ~~• Have an Accreditation as an Acute Ready, Primary, Thrombectomy Capable, or Comprehensive Stroke Center by The Joint Commission (TJC), or Healthcare Facilities Accreditation Program (HFAP) or and Det Norske Veritas (DNV) and proof of re-accreditation every two (2) years.~~
- ~~• Be compliant with all requirements listed in the California Code of Regulations, Title 22, Division 9, Chapter 7.2, Stroke Critical Care System for the requested level of designation.~~
- ~~• An alert/communication system for notification of incoming stroke patients, available twenty four (24) hours per day, seven (7) days per week (i.e., in-house paging system).~~
- ~~• Provide continuing education (CE) opportunities twice per year for NSRC, NSRH and emergency medical services (EMS) field personnel in areas of pathophysiology, assessment, triage and management for stroke patients and report annually to ICEMA.~~
- ~~• Lead public stroke education efforts at the appropriate educational level and report annually to ICEMA.~~

III. STAFFING REQUIREMENTS

The hospital will have the following positions filled for all levels of designation prior to becoming a Stroke Receiving Center. NSRC:

- Medical Directors

The hospital shall designate two (2) physicians with hospital privileges as co-directors who are responsible for the medical oversight and ongoing performance of the Stroke Receiving Center program.~~of its NSRC program.~~ One (1) physician shall be board certified or board eligible by the American Board of Medical Specialties or American Osteopathic Association, neurology or neurosurgery board. The co-director shall be a board certified or board eligible emergency medicine physician.

- ~~Stroke Program Manager~~Nursing Coordinator

The hospital shall designate a ~~NSRC Stroke Nursing Coordinator Program Manager~~ who is responsible for monitoring and evaluating Stroke patients, performance improvement and patient safety programs related to a Stroke critical care system. The Program Manager must be trained or ~~has experience~~ certified in critical care ~~or emergency~~ nursing, and ~~has~~ has advanced education in stroke physiology or at least has two (2) years dedicated stroke patient management experience. Certification in critical care or emergency nursing is preferred.

- On-Call Physicians Specialists/Consultants

On-Call physicians consultants and staff must be promptly available within 30 minutes from notification. A daily roster must include ~~of~~ the following on-call physician consultants and staff: ~~must be promptly available within thirty (30) minutes of notification of "Stroke Alert" twenty-four (24) hours per day, seven (7) days per week.~~

- Radiologist experienced in neuroradiologic interpretations.
- On-call Neurologist and /or tele-neurology services available twenty-four (24) hours per day; seven (7) days per week.
- ~~If neurosurgical services are not available in-house, the hospital must have a rapid transfer agreement in place with a hospital that provides this service. The agreement must be on file with the ICEMA. NSRCs must promptly accept rapid transfer requests from NSRCs. Additionally, the hospital must have a rapid transport agreement in place with an ICEMA permitted transport provider for that exclusive operation area (EOA).~~

- Registrar

At least one (1) full time registrar dedicated to process the ICEMA data, the California Stroke Registry, GWTG - Coverdell, for each 500 - 750 patients in the registry. Staffing needs may increase if additional data elements are collected.

IV. INTERNAL STROKE RECEIVING CENTER~~HOSPITAL~~ POLICIES

All levels of designation ~~The hospital must have shall develop~~ internal policies for the following: ~~situations:~~

- Stroke Team alert response policy upon EMS notification of a “Stroke Alert”.
- Rapid assessment of stroke patient by Emergency and Neurology Teams.
- Prioritization of ancillary services including laboratory and pharmacy with notification of “Stroke Alert”.
- Arrangement for priority bed availability in Acute Stroke Unit or Intensive Care Unit (ICU) for “Stroke Alert” patients.
- If neurosurgical services are not available in-house, the Stroke Receiving Center must have a rapid transfer agreement in place with a hospital that provides this service. Stroke Receiving Centers must promptly accept rapid transfer requests. Additionally, the Stroke Receiving Center must have a rapid transport agreement in place with an ICEMA approved EMS transport provider for that Exclusive Operation Area (EOA).
- Acknowledgement that stroke patients may **only** be diverted during the times of Internal Disaster in accordance to ICEMA Reference #8060 - Requests for Hospital Diversion Policy ~~(applies to physical plant breakdown threatening significant patient services or immediate patient safety issues, i.e., bomb threat, earthquake damage, hazardous material or safety and security of the hospital.)~~ A written notification describing the event must be submitted to ICEMA within ~~twenty-four (24)~~ hours.
- Emergent thrombolytic and tele-neurology ~~(if waiver is approved)~~ protocol to be used by Neurology, Emergency, Pharmacy and Critical Care Teams.
- Readiness of diagnostic computed tomography (CT) and magnetic resonance imaging (MRI), upon notification of Stroke Team.
- An alert/communication system for notification of incoming stroke patients, available 24 hours per day, seven (7) days per week (i.e., in-house paging system).

V. DATA COLLECTION

~~Designated Stroke Receiving Centers shall report all required data as determined by ICEMA and the Stroke Committee will be reported to the ICEMA Medical Director on a monthly basis using an ICEMA approved registry.~~

VI. CONTINUOUS QUALITY IMPROVEMENT (CQI) PROGRAM

~~NSRC Stroke Receiving Centers shall develop an on-going CQI program which monitors all aspects of treatment and management of stroke patients and identify areas needing improvement. The program must, at a minimum, monitor the following parameters:~~

- Morbidity and mortality related to procedural complications.
- Review of all transfers.
- Tracking door-to-intervention times and adherence to minimum performance standards.

~~ICEMA will determine current performance indicators. Any specific or additional performance indicators will be determined in collaboration with the Stroke CQI Committee.~~

- Active participation in ICEMA Stroke CQI Committee activities and Stroke regional peer review process. This will include a review of selected medical records as determined by CQI indicators and presentation of details to peer review committee for adjudication.
- Provide Continuing Education (CE) opportunities twice per year for referral hospitals and EMS field personnel in areas of pathophysiology, assessment, triage and management for stroke patients and report annually to ICEMA.
- Lead public stroke education and illness prevention efforts and report annually to ICEMA.

VII. PERFORMANCE STANDARDS

~~Designated Stroke Receiving Centers must comply Compliance with the California Code of Regulations, Title 22, Division 9, Chapter 7.2, Stroke Critical Care System, the American Stroke Association ICEMA policy, and the appropriate Performance Measures set forth by the accrediting agencies as an Acute Ready, Primary, Thrombectomy-Capable, or Comprehensive Stroke Receiving Centers.~~

VIII. DESIGNATION LEVELS

- Acute Stroke Ready Hospital: A hospital able to provide the minimum level of critical care services for stroke patients in the emergency department, and are paired with one or more hospitals with a higher level of stroke services.
- Primary Stroke Center: A hospital that treats acute stroke patients, and identifies patients who may benefit from transfer to a higher level of care when clinically warranted.
- Thrombectomy-Capable Stroke Center: A primary stroke center with the availability to perform mechanical thrombectomy for the ischemic stroke patient when clinically warranted.
- Comprehensive Stroke Center: A hospital with specific abilities to receive diagnose and treat all stroke cases and provide the highest level of care for stroke patients.

Acute Stroke Ready Hospitals

To be considered for Acute Stroke Ready hospital designation multiple variables will be taken into consideration and will be determined by the ICEMA Medical Director:

- What are the current needs of the community.
- How will this impact the overall care in the system.
- What is the location of the hospital, is there a prolonged distance to a primary thrombectomy or comprehensive stroke center.

The hospital must meet the following minimum criteria:

- Written transfer agreements.
- Written policies and procedures for emergent stroke services to include written protocols and standardized orders.
- A data-driven, continuous quality improvement process.
- Neuro imaging services (CT or MRI) with interpretation of imaging available 24 hours a day, seven (7) days a week, and 365 days a year.
- Laboratory services to include blood testing, electrocardiography, and x-ray services 24 hours a day, seven (7) days a week and 365 days a year.
- Provide IV thrombolytic treatment.
- A clinical Stroke Team available to see patient (in person or by tele-health) within 20 minutes of arrival to ED.

Primary Stroke Centers

- Stroke diagnosis and treatment capacity 24 hours a day, seven (7) days a week.
- A clinical Stroke Team available to see in person or via telehealth, a patient identified as a potential stroke patient within 15 minutes following patient's arrival.
- Neuro imaging services capability that is available 24 hours a day, seven (7) days a week.
- Two (2) CT scanners and one (1) MRI scanner initiated within 25 minutes following arrival to ED.
- Laboratory services capability this is available 24 hours a day, seven (7) days a week.

Thrombectomy Capable Centers (in addition to Primary Stroke Center Requirements)

- The ability to perform mechanical thrombectomy for the treatment of ischemic stroke 24 hours a day, seven (7) days a week.
- Neuro interventionalist.
- Neuro radiologist.
- The ability to perform advanced imaging 24 hours a day, seven (7) days a week.

Comprehensive Centers (in addition to Primary and Thrombectomy Center Requirements)

- Neuro-endovascular diagnostic and therapeutic procedures available 24 hours a day, seven (7) days a week.
- Advanced imaging available 24 hours a day, seven (7) days a week.
- A stroke patient research program.
- A neurosurgical team capable of assessing and treating complex stroke and stroke-like syndromes.
- A written call schedule for attending neurointerventionalist, neurologist, or neurosurgeon providing availability 24 hours a day, seven (7) days a week.

VHIX. DESIGNATION

ICEMA designation as an Acute Stroke Ready Hospital, Primary, Thrombectomy Capable, or Comprehensive Center will be determined based on need and volume in the community. Designation will not be determined by current accreditation only; however, Stroke Receiving Centers must be accredited at at least the same level they are seeking designation for.

- The ~~NSRC-Stroke Receiving Center~~ applicant shall be designated by ICEMA after satisfactory review of written documentation, a potential site survey and completion of an agreement between the hospital and ICEMA.

- Documentation of current accreditation as an Acute Ready hospital, Primary Stroke Center, Thrombectomy Capable Stroke Center or Comprehensive Stroke Center by TJC, ~~or HFAP~~ or and DNV ~~shall be accepted in lieu of a formal site visit by ICEMA.~~
- Initial designation as a NSRC—Primary, Thrombectomy, Capable or Comprehensive Stoke Center shall be in accordance with terms outlined in the agreement.
- Failure to comply with the agreement, criteria and performance standards outlined in this policy may result in probation, suspension or rescission of the ~~NSRC-Stroke~~ designation.

IX. REFERENCE

<u>Number</u>	<u>Name</u>
8060	Requests for Hospital Diversion Policy (San Bernardino County Only)



CONTINUATION OF CARE (San Bernardino County Only)

I. PURPOSE

To develop a system that ensures the rapid transport of patients at the time of symptom onset or injury, to receiving the most appropriate definitive care. This system of care consists of public safety answering point (~~PSAP~~) providers, EMS providers, referral hospitals (~~RH~~), Specialty Care Centers (~~Cardiovascular~~—ST Elevation Myocardial Infarction (STEMI), Stroke or Trauma), ICEMA and EMS leaders combining their efforts to achieve this goal.

This policy shall only be used for:

- Rapid transport of ~~trauma~~, STEMI, ~~and~~ stroke and trauma patients from referral hospitals ~~RH~~ to Specialty Care Center.
- Specialty Care Center to Specialty Care Center when higher level of care is required.
- EMS providers that are transporting unstable patients ~~requiring transport~~ to a Specialty Care STEMI, Stroke or Trauma Center ~~to~~ but need to stop at the at any closest receiving hospital for airway stabilization before continuing on; ~~and continue on to a Specialty Care Center.~~

It is not to be used for any other form of interfacility transfer of patients.

H. ~~DEFINITIONS~~

~~Neurovascular Stroke Receiving Centers (NSRC): A licensed general acute care hospital designated by ICEMA's Governing Board as a NSRC. A licensed acute care hospital designated by ICEMA's Governing Board as a receiving hospital for patients triaged as having a cerebral vascular event requiring hospitalization for treatment, evaluation and /or management of stroke.~~

~~Referral Hospital (RH): Any licensed general acute care hospital that is not an ICEMA designated TC, SRC or NSRC.~~

~~Specialty Care Center: An ICEMA designated Trauma, STEMI or Stroke Center.~~

~~STEMI Receiving Centers (SRC): A licensed general acute care hospital designated by ICEMA's Governing Board as STEMI Receiving Center with emergency interventional cardiac catheterization capabilities.~~

~~Trauma Center (TC): A licensed general acute care hospital designated by ICEMA's Governing Board as a trauma hospital in accordance with State laws, regulations and ICEMA policies.~~

III. INCLUSION CRITERIA

- Any patient meeting ICEMA Trauma Triage Criteria, (refer to ICEMA Reference #15030 - Trauma Triage Criteria and Destination Policy) arriving at a non-trauma hospital ~~by EMS or non-EMS transport.~~
- Upon recognition of any critically injured patients that is are in urgent need of transfer from one trauma receiving center to a higher level of care trauma receiving center.
- Any patient with a positive STEMI requiring EMS transport to a STEMI Receiving Center SRC (refer to ICEMA Reference #6070 - ~~Cardiovascular~~ ST Elevation Myocardial Infarction Critical Care System Receiving Centers Criteria and Designation Destination Policy).
- Any patient with a positive mLAPSS ~~or stroke scale~~ requiring EMS transport to a NSRC Stroke Receiving Center, (refer to ICEMA Reference #6100 - Stroke Critical Care System Designation Policy).
- Any patient identified with a Large Vessel Occlusion (LVO) requiring rapid EMS transport to higher level of care for Endovascular Stroke Treatment.

III.V. INITIAL TREATMENT GOALS AT REFERRAL HOSPITAL

- Initiate resuscitative measures within the capabilities of the facility.
- Ensure patient stabilization is adequate for subsequent transport.
- Do not delay transport by initiating any diagnostic procedures that do not have direct impact on immediate resuscitative measures.

➤ GUIDELINES

Less than < 30 minutes at referral hospital RH (door-in/door-out).

Less than < 30 minutes to complete ALS continuation of care transport.

Less than < 30 minutes door-to-intervention at Specialty Care Center.

Less than 60 minutes for rapid identification of a LVO at a primary stroke center.

- Referral hospital H shall contact the appropriate Specialty Care Center ED physician directly without calling for an inpatient bed assignment. Refer to Section IV - ~~SRH SRC Referral Hospital~~ Buddy System Table.

- Specialty Care Centers should consider putting a mechanism in place to bypass their transfer center triage process and route STEMI, stroke and trauma transfers to the ED physician.
- EMS providers shall make contact with Specialty Care Centers to notify of the estimated time of arrival.~~Specialty Care Center base hospital contact.~~
- ~~The~~ Specialty Care Centers shall accept all referred ~~trauma, stroke and~~ STEMI, stroke and trauma patients meeting criteria in this policy unless they are on Internal Disaster as defined in ICEMA Reference #8060 - Requests for Hospital Diversion Policy (San Bernardino County Only).
- The ~~Specialty Care Center~~ ED physician is the accepting physician at the Specialty Care Center and will activate the internal Trauma, STEMI, or Stroke or Trauma Team according to internal ~~TC, SRC or NSRC~~ policies or protocols.
- The referral hospital RH ED physician will determine the appropriate mode of transportation for the patient.
- Simultaneously call 9-1-1 and utilize the following script to dispatch:

“This is a cContinuation of cCare run from ____ hospital to ____ STEMI, Stroke or Trauma Center”

Fire departments will not be dispatched for 9-1-1 continuation of care calls, the dDispatchers will only dispatch transporting paramedic units, without any fire apparatus.
- Referral hospital H ED physician will provide a verbal report to the ED physician at the Specialty Care Center.
- Referral hospital H must will send all medical records, test results, radiologic evaluations to the Specialty Care Center. DO NOT DELAY TRANSPORT - these documents may be electronically submitted or FAXED to the Specialty Care Center.

IV. SPECIAL CONSIDERATIONS FOR REFERRAL HOSPITALS

- If ~~the a~~ patient ~~has arrived~~ arrives at the to a referral hospital RH via EMS field personnel, ~~the RH ED a~~ physician may request that the transporting team remain and immediately transport the patient once minimal stabilization is done, ~~at the RH.~~
- If a suspected stroke patient presenting to a non-designated stroke center is outside of the tPA administration window (greater than 4.5 hours from “last seen normal”), consider contacting nearest thrombectomy capable or

comprehensive stroke center to determine the best destination. Then follow the 9-1-1 script.

- ~~• EMT-Ps may only transport patients on Dopamine and Lidocaine drips. Heparin and Integrillin drips are not within the EMT-P scope of practice and require a critical care transport nurse to be in attendance. Unless medically necessary, avoid using medication drips that are outside of the EMT-P scope of practice to avoid any delays in transferring of patients.~~
- Unless medically necessary, avoid using medication drips that are outside of the EMT-P scope of practice to avoid any delays in transferring of patients. EMT-Ps may only transport patients on Dopamine and Lidocaine drips. Heparin and Integrillin drips are not within the EMT-P scope of practice and require a critical care transport nurse to be in attendance.
- The RH-referral hospital may consider sending one of its nurses or physician with the transporting ALS unit if deemed necessary due to the patient's condition or scope of practice per ICEMA Reference 8010 – Interfacility Transfer Guidelines.
- Do not call 9-1-1 dispatch if the patient requires Critical Care Transport (CCT) or Specialty Care Transport (SCT). The referral hospital must make direct contact with the EMS Providers Dispatch Center. Requests for Specialty Care Transport (SCT) (ground or air ambulance) must be made directly with the EMS provider's dispatch center. The request for SCT should be made as early as possible or simultaneously upon patient's arrival so availability of resource can be determined.
- Specialty Care Center dDiversion is not permitted except for Internal Disaster. However, Specialty Care Center base hospitals are allowed to facilitate redirecting of EMS patients to nearby SRCs, NSRCs or TCs when the closest Specialty Care Center is over capacity. When STEMI, Stroke and Trauma Centers are over capacity and to avoid prolonged door-to-intervention times, base hospitals may facilitate alternative STEMI, Stroke or Trauma Centers as the best destination for the patient.. Specialty Care Center base hospitals shall Base hospitals must ensure physician to physician contact when facilitating the use of an alternate destination. when redirecting patients.

VI. SPECIALTY CARE CENTER - REFERRAL HOSPITAL BUDDY SYSTEM TABLE

NEUROVASCULAR STROKE RECEIVING CENTERS (NSRC)	NEUROVASCULAR STROKE REFERRAL HOSPITALS (NSRH)
Arrowhead Regional Medical Center	<ul style="list-style-type: none"> • Barstow Community Hospital • Colorado River Medical Center • Community Hospital of San Bernardino • Hi Desert Medical Center • St. Bernardine Medical Center • St. Mary Medical Center
Desert Regional Medical Center	<ul style="list-style-type: none"> • Colorado River Medical Center • Hi-Desert Medical Center
Kaiser Hospital Foundation - Fontana	<ul style="list-style-type: none"> • Barstow Community Hospital • Victor Valley Global Medical Center • Desert Valley Hospital
Kaiser Hospital Foundation - Ontario	<ul style="list-style-type: none"> • Chino Valley Medical Center • Montclair Community Hospital
Loma Linda University Medical Center	<ul style="list-style-type: none"> • Bear Valley Community Hospital • Community Hospital of San Bernardino • J.L. Pettis VA Hospital (Loma Linda VA) • Mountains Community Hospital • St. Bernardine Medical Center • Weed Army Community Hospital at Fort Irwin
Pomona Valley Hospital Medical Center	<ul style="list-style-type: none"> • Chino Valley Medical Center • Montclair Hospital Medical Center
Redlands Community Hospital	<ul style="list-style-type: none"> • Bear Valley Community Hospital • J. L. Pettis VA Hospital (Loma Linda VA) • Mountains Community Hospital
<u>St. Bernardine Medical Center</u>	<ul style="list-style-type: none"> • <u>Bear Valley Community Hospital</u> • <u>Community Hospital of San Bernardino</u> • <u>Mountains Community Hospital</u> • <u>Victor Valley Global Medical Center</u>
San Antonio Regional Hospital	<ul style="list-style-type: none"> • Chino Valley Medical Center • Desert Valley Hospital • Montclair Hospital Medical Center • St. Mary Medical Center • Victor Valley Global Medical Center

STEMI RECEIVING CENTER (SRG)	STEMI REFERRAL HOSPITAL (SRH)
Desert Valley Hospital	<ul style="list-style-type: none"> • Barstow Community Hospital • Victor Valley Global Medical Center • Weed Army Community Hospital at Fort Irwin
Loma Linda University Medical Center	<ul style="list-style-type: none"> • Arrowhead Regional Medical Center • Bear Valley Community Hospital • J. L. Pettis VA Hospital (Loma Linda VA) • Redlands Community Hospital
Pomona Valley Hospital Medical Center	<ul style="list-style-type: none"> • Chino Valley Medical Center • Montclair Hospital Medical Center
San Antonio Regional Hospital	<ul style="list-style-type: none"> • Chino Valley Medical Center • Kaiser Ontario Medical Center • Montclair Hospital Medical Center
St. Bernardine Medical Center	<ul style="list-style-type: none"> • Colorado River Medical Center • Community Hospital of San Bernardino • Kaiser Fontana Medical Center • Mountains Community Hospital
St. Mary Medical Center	<ul style="list-style-type: none"> • Barstow Community Hospital • Bear Valley Community Hospital • Hi-Desert Medical Center • Robert E. Bush Naval Hospital-29 Palms • Victor Valley Global Medical Center

TRAUMA CENTER (TC)	REFERRAL HOSPITAL (SRH)
Arrowhead Regional Medical Center	<ul style="list-style-type: none"> • Barstow Community Hospital • Chino Valley Medical Center • Desert Valley Medical Center • Kaiser Fontana • Kaiser Ontario • Mammoth Hospital • Montclair Hospital Medical Center • Northern Inyo Hospital • San Antonio Regional Hospital • Southern Inyo Hospital • St. Bernardine Medical Center
Loma Linda University Medical Center	<ul style="list-style-type: none"> • Bear Valley Community Hospital • Colorado River Medical Center • Hi Desert Medical Center • Mountains Community Hospital • Redlands Community Hospital • J. L. Pettis VA Hospital (Loma Linda VA) • Robert E. Bush Naval Hospital-29 Palms • St. Mary Medical Center • Victor Valley Global Medical Center • Weed Army Hospital
Loma Linda University Children's Hospital	<ul style="list-style-type: none"> • Regional Pediatric Trauma Center

VII. REFERENCES

<u>Number</u>	<u>Name</u>
6070	Cardiovascular ST Elevation Myocardial Infarction <u>Critical Care System</u> Receiving Centers Destination <u>Designation Policy</u>
6100	Neurovascular Stroke <u>Critical Care System Designation</u> Receiving Centers Destination Policy (San Bernardino County Only)
<u>8010</u>	<u>Interfacility Transfer Guidelines</u>
8060	Requests for Hospital Diversion Policy (San Bernardino County Only)
15030	Trauma Triage Criteria



DESTINATION POLICY

I. PURPOSE

To ~~ensure~~ establish guidelines for the transportation of 9-1-1 patients to the most appropriate receiving facility that has the staff and resources to deliver definitive care to the patient. Destination may be determined by patient's need for specialty care services, such as those provided by designated ~~trauma,~~ STEMI, Stroke, and Trauma Centers.

~~H. DEFINITIONS~~

~~**Aircraft Dispatch Center (ADC):** An ICEMA designated dispatch center which dispatches and coordinates air ambulance and/or air rescue aircraft response to the scene of a medical emergency within the ICEMA region.~~

~~**Adult Patient:** A person who is or is appearing to be older than 15 years of age.~~

~~**Burn Patient:** Patients meeting ICEMA's burn classifications minor, moderate or major, per ICEMA Reference #11100 Burn Adult (15 years of age or older) and #14070 Burn Pediatrics.~~

~~**Critical Trauma Patient (CTP):** Patients meeting ICEMA's trauma triage criteria per ICEMA Reference #15030 Trauma Triage Criteria.~~

~~**Neurovascular Stroke Receiving Center (NSRC):** A licensed acute care hospital designated by ICEMA's Governing Board as a receiving hospital for patients triaged as having a cerebral vascular event requiring hospitalization for treatment, evaluation and/or management of stroke.~~

~~**Neurovascular Stroke Base Hospital:** Facilities that have been designated by ICEMA's Governing Board as a Neurovascular Receiving Hospital that also function as a base hospital.~~

~~**Pediatric Patient:** A person who is or is appearing to be under 15 years of age.~~

~~**Pediatric Trauma Center:** A licensed acute care hospital which usually treats (but is not limited to) persons under 15 years of age, designated by ICEMA's Governing Board that meets all relevant criteria, and has been designated as a pediatric trauma hospital, according to California Code of Regulations, Title 22, Division 9, Chapter 7, Section 100261.~~

~~**ROSC:** Return of spontaneous circulation.~~

~~**Specialty Care Center:** ICEMA designated trauma, STEMI, or stroke receiving centers.~~

~~**ST Elevation Myocardial Infarction (STEMI):**—A medical term for a type of myocardial infarction that results in an elevation of the ST Segment on a 12-lead electrocardiogram (ECG).~~

~~**STEMI Base Hospital:**—Facilities that have emergency interventional cardiac catheterization capabilities that also function as a base hospital.~~

~~**STEMI Receiving Center (SRC):**—A licensed general acute care hospital designated by ICEMA's Governing Board as a STEMI Receiving Center that has emergency interventional cardiac catheterization capabilities.~~

~~**STEMI Referring Hospital:**—Facilities that do not have emergency interventional cardiac catheterization capabilities.~~

~~**Trauma Center:**—A licensed general acute care hospital designated by ICEMA's Governing Board as a trauma hospital in accordance with State laws and regulations.~~

III. POLICY

If the patient's condition is stable, the most appropriate destination may be the facility associated with their healthcare plan and primary care physician.

If a patient requires specialty care services at an ICEMA designated STEMI, Stroke, or Trauma Receiving or other approved specialty Center, the EMS provider may bypass closer facilities. ~~for another facility having the specialty services needed by the patient. Destination for specialty patients requires contact with an appropriate specialty base hospital.~~

Destination decisions should be based on patient condition or patient, guardian, family or law enforcement request. Patients unable to, or without a preference should be taken to the closest hospital unless their condition requires specialty services described below.

If directed by the base hospital physician, an EMS transport provider may bypass a closer facility.

III.V. GENERAL CONSIDERATIONS

- Closest Hospital
 - All patients requiring immediate medical attention for difficult to manage airways or life threatening conditions.
 - Patients that do not have a destination preference.

- Patient Request
 - ~~Honor patient requests should be honored~~ if possible and when appropriate.
 - ~~Patient requests for specific destination may be accommodated if~~ patient is medically stable and the destination is not significantly beyond the primary response area of the EMS transportation provider.
 - If a patient is in need of STEMI, stroke, or trauma services and refuses transport to a Specialty Care Center, or chooses to bypass the recommended Specialty Care Center SRC, EMS field personnel must obtain an AMA and notify the ~~STEMI~~ base hospital.
- Higher Level of Care
 - ~~Is~~ May be dictated by patient condition ~~and base hospital direction~~.
 - Allows ALS providers to bypass a closer facility in favor of a facility that has the capability of a specialty response to the patient's condition.
- Base Hospital
 - ~~Final authority for destination determination is the base hospital~~.
 - Base hospital physician may override prior destination decisions made by the paramedic (EMT-P) ~~or protocol~~.

IV. PSYCHIATRIC HOLDS

- All patients with a medical complaint on a psychiatric hold (5150) require medical evaluation and treatment and shall be transported to the closest acute care hospital for medical clearance.
- Any acute care hospital is capable of medically clearing psychiatric patients.
- Patients on a psychiatric hold with no medical complaints or conditions, may be released to law enforcement for transport directly to a psychiatric facility ~~that has the capacity to accept the patient~~.

V. DIVERSION (Refer to ICEMA Reference #8060 - Requests for Hospital Diversion Policy - San Bernardino County Only)

- Diversion of ALS ambulances is limited by ICEMA, refer to ICEMA Reference #8060 - Requests for Hospital Diversion Policy (San Bernardino County Only).

- Ambulance diversion to another acute care hospital is not allowed in the ICEMA region based on hospital census or staffing.
- A patient may be directed to a hospital on diversion if it is in the best interest of the patient and the hospital has not declared an internal disaster.
- ~~The base hospital determines final destination of Advanced Life Support (ALS) or Limited Advanced Life Support (LALS) patients.~~
- Basic Life Support (BLS) ambulances may not be diverted from their intended destination unless the hospital is on internal disaster.

VI. SPECIALTY CARE CENTERS

~~Specialty Care Center base hospital contact is mandatory for patients going to trauma, STEMI or stroke centers; and are the only authority that may change destination to another receiving hospital, trauma, STEMI or stroke center.~~

- STEMI Receiving Centers SRCs: Refer to ICEMA Reference #11060 - Suspected Acute Myocardial Infraction (AMI).

~~STEMI Receiving Centers SRC is are the preferred appropriate destination for identified STEMI identified patients, based on machine interpretation of field 12-lead ECG, verified by EMT-Ps and approved by base hospital physician.~~

- ~~Once a patient with a STEMI has been identified, contact STEMI base hospital for destination decision and make early STEMI notification to the STEMI Receiving Center and prepare patient for expeditious transport. Total transport time to the SRC is thirty (30) minutes or less. Base hospital physician may override this requirement and authorize transport to SRC with transport time greater than thirty (30) minutes.~~
- ROSC patients of unknown or suspected cardiac etiology, regardless of 12-lead ECG reading, should be transported to the closest STEMI Receiving Center, unless transport time is greater than 30 minutes. If the closest STEMI Receiving Center is greater than 30 minutes, transportation to the closest receiving hospital may be appropriate.
- ~~In Inyo and Mono Counties, the assigned base hospital should be contacted for STEMI consultation.~~
- ~~In addition, patients with the following factors should be transported to the closest SRC. STEMI base hospital contact and consultation is required:~~
 - ~~Obvious contraindication to thrombolytic therapy.~~

- ~~▪ Cardiopulmonary arrest with sustained ROSC. Refer to ICEMA Reference #11070 - Cardiac Arrest - Adult.~~
- STEMI patients with ~~the following factors~~difficult to manage airways should be transported to the closest ~~paramedic-receiving hospital. STEMI base hospital contact and consultation is required:~~
 - ~~▪ Unmanageable Difficult to manage airway, unstable cardiopulmonary condition, or in cardiopulmonary arrest.~~
 - ~~▪ Malignant ventricular fibrillation, ventricular tachycardia, second degree type II heart block and third degree heart block.~~
 - ~~▪ Hemodynamic instability as exhibited by systolic blood pressure less than 90 and/or signs of inadequate tissue perfusion.~~
- Stroke Receiving Centers NSRCs: Refer to ICEMA Reference #11110 - Stroke Treatment - Adult (15 years of age and older).
 - Stroke Receiving Centers are the appropriate destination for suspected stroke patients identified by using the mLAPSS triage criteria and LAMS Score.
 - ~~➤ Suspected stroke patients eligible for transport to NSRC will be identified using the mLAPSS triage criteria.~~
 - Once a patient with a ~~stroke~~positive mLAPSS ~~ε~~ has been identified, and LAMS scale has been completed ~~contact a NSRC base hospital for destination decision and~~ prepare the patient for expeditious transport.
 - ~~➤ In Inyo and Mono Counties, the assigned base hospital should be contacted for stroke consultation.~~
 - ~~If NSRC base hospital, is different from the NSRC,~~ Notify the Stroke Receiving Center NSRC of the patient's pending arrival as soon as possible to allow timely notification of the stroke team.
 - Identified acute stroke patients with "last seen normal" time plus transport time less than ~~twelve (12)~~24 hours, or a "wake-up" stroke, transport to closest Stroke Receiving Center NSRC.
 - ~~➤ The following factor should be considered in determining choice of destination for acute stroke patients. NSRC base hospital contact and consultation is mandatory:~~

- Patients ~~with an unmanageable airway or in~~ traumatic cardiac arrest with a transport time greater than 15 minutes to a Trauma Center, contact trauma base hospital and should be transported to the closest receiving hospital, if indicated. Trauma base hospital contact shall be made.
- Burn: (Refer to ICEMA Reference #15030 - Trauma Triage Criteria.)
 - Burn patients meeting the physiologic or anatomic criteria for a critical trauma patient~~CTP~~ shall be transported to the closest Trauma Center.
 - Burn patients meeting minor or moderate classifications shall be transported to the closest receiving hospital.
 - Burn patients meeting major burn classification may be transported to the closest burn center (in San Bernardino County contact Arrowhead Regional Medical Center).
 - Pediatric burn patients identified as a critical trauma patient~~CTP~~ should always be transported to the closest a pediatric Trauma Center with or without burn capabilities if transport time is less than 20 minutes. When there is less than twenty (20) minutes difference in transport time, a pediatric Trauma Center is the preferred destination.
 - Burn patients with respiratory compromise, or potential for such, will be transported to the closest acute care receiving hospital for airway stabilization.

VII. INTERFACILITY TRANSFER (Refer to ICEMA Reference #8010 - Interfacility Transfer Guidelines)

- Patients will be transported to the designated receiving facility. If the patient's condition deteriorates significantly while en route to the designated facility the patient may be diverted to the closest receiving hospital for stabilization. Patients will go to the designated destination facility regardless of patients' prior condition. Patients may only be diverted if patients' condition deteriorates significantly while in the care of EMS.
- Advanced EMTs and EMT-Ps may initiate ~~prior to contact~~ protocols prior to contacting the base hospital for change of destination. if the patient's condition deteriorates significantly.

VIII. EMS AIRCRAFT ROTATION AND DESTINATION (San Bernardino County Only)

- All EMS Aircraft requests from the field in San Bernardino County will be dispatched by the ICEMA designated Aircraft Dispatch Center (ADC).

- The destination may be changed by the EMS providers based on patient requirements for specialty centers.
- Refer to ICEMA Reference #8070 - Aircraft Rotation Policy (San Bernardino County Only).

IX. REFERENCES

<u>Number</u>	<u>Name</u>
5050	Medical Response to a Multi-Casualty Incident Policy
6070	Cardiovascular STEMI Receiving Centers
8010	Interfacility Transfer Guidelines
8060	Requests for Hospital Diversion Policy (San Bernardino County Only).
8070	Aircraft Rotation Policy (San Bernardino County Only)
11060	Suspected Acute Myocardial Infraction (AMI)
11070	Cardiac Arrest - Adult
11100	Burn - Adult (15 years of age or older)
11110	Stroke Treatment - Adult
14070	Burn - Pediatrics
15030	Trauma Triage Criteria



SUSPECTED ACUTE MYOCARDIAL INFARCTION (AMI)

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Chest pain (typical or atypical).
- Syncopal episode.
- History of previous AMI, Angina, heart disease, or other associated risk factors.

II. BLS INTERVENTIONS

- Recognition of signs/symptoms of suspected AMI.
- Reduce anxiety, allow patient to assume position of comfort.
- Oxygen as clinically indicated.
- Obtain oxygen O_2 saturation.
- May assist patient with self-administration of Nitroglycerin and/or Aspirin.

III. LIMITED ALS (LALS) INTERVENTIONS

- Aspirin per ICEMA Reference #7040 - Medication - Standard Orders.
- Consider early vascular access.
- For patients with chest pain, signs of inadequate tissue perfusion and clear breath sounds, administer 300 ml NS bolus, may repeat.
- Nitroglycerin per ICEMA Reference #7040 - Medication - Standard Orders.
- Consider establishing a saline lock enroute on same side as initial IV.
- Complete thrombolytic checklist, if time permits.
- Contact base hospital.

IV. ALS INTERVENTIONS

- Aspirin per ICEMA Reference #7040 - Medication - Standard Orders.
- Consider early vascular access.
- For patients with chest pain, signs of inadequate tissue perfusion and clear breath sounds, administer 300 ml NS bolus, may repeat.
- 12-Lead Technology:
 - Obtain 12-lead ECG. Do not disconnect 12-lead cables until necessary for transport.
 - If signs of inadequate tissue perfusion or if inferior wall infarct is suspected, obtain a right-sided 12-lead (V4R).
 - If right ventricular infarct (RVI) is suspected with signs of inadequate tissue perfusion, consider 300 ml NS bolus, may repeat. Early consultation with base hospital or receiving hospital in rural areas is recommended. (Nitrates are contraindicated in the presence of RVI or hypotension.)
 - With documented ST segment elevation in two (2) or more contiguous leads; ~~contact STEMI base hospital for destination decision~~ make early STEMI notification to the STEMI Receiving Center while preparing patient for expeditious transport, refer to ICEMA Reference #6070 - ST Elevation Myocardial Infarction Critical Care System Designation. Cardiovascular “STEMI” Receiving Centers. In Inyo and Mono Counties, the assigned base hospital should be contacted for STEMI consultation.
 - Repeat 12-lead ECG at regular intervals, but do not delay transport of patient. If patient is placed on a different cardiac monitor for transport, transporting provider should obtain an initial 12-lead on their cardiac monitor and leave 12-lead cables in place throughout transport.
 - EMS field personnel shall ensure that a copy of the 12-lead ECG is scanned-uploaded or attached as a permanent part of the patient’s ePCR; ~~or OIA and submit to ICEMA if patient is going to a SRC as a suspected STEMI.~~
- Nitroglycerin per ICEMA Reference #7040 - Medication - Standard Orders. Utilize Fentanyl for cardiac chest pain control when Nitroglycerin is contraindicated.

- Fentanyl per ICEMA Reference #7040 - Medication - Standard Orders. Consider concurrent administration of Nitroglycerin with Fentanyl if there is no cardiac chest pain relief from the initial Nitroglycerin administration. Contact base hospital for further Fentanyl orders.
- Consider establishing a saline lock as a secondary IV site.
- ~~Make early STEMI notification to the STEMI Receiving Center.~~
- ~~In Radio Communication Failure (RCF), may administer up to an additional 100 mcg of Fentanyl in 50 mcg increments with signs of adequate tissue perfusion.~~

V. REFERENCES

<u>Number</u>	<u>Name</u>
6070	<u>ST Elevation Myocardial Infarction Critical Care System Designation Cardiovascular “STEMI” Receiving Centers</u>
7040	Medication - Standard Orders



CARDIAC ARREST - ADULT

High performance (HP) CPR is an organized approach to significantly improve the chance of survival for patients who suffer an out-of-hospital cardiac arrest (OHCA). Return of spontaneous circulation (ROSC) is resumption of sustained perfusing cardiac activity associated with significant respiratory effort after cardiac arrest. Signs of ROSC include breathing, coughing, patient movement and a palpable pulse or a measurable blood pressure.

The principles for HP CPR include:

- Minimize interruptions of chest compressions.
- Ensure proper depth of chest compressions of 2” - 2.5” allowing full chest recoil (no leaning on chest).
- Proper chest compression rate at 100 - 120 per minute.
- Avoid compressor fatigue by rotating compressors every 2 (two) minutes. Ventilations shall be sufficient to cause minimal chest rise, avoiding hyperventilation as it can decrease survival.

Advanced airways can be safely delayed in OHCA patients until ROSC is achieved if the airway is effectively managed by BLS measures. BVM offers excellent oxygenation and ventilation without disrupting high quality compressions.

Base hospital contact is not required to terminate resuscitative measures, if the patient meets criteria set forth below in the Termination of Efforts in the Prehospital Setting.

I. FIELD ASSESSMENT/TREATMENT INDICATORS

Cardiac arrest in a non-traumatic setting.

II. BLS INTERVENTIONS

- Assess patient, begin HP CPR ~~according to current AHA Guidelines~~, and maintain appropriate BLS airway measures.
 - ~~Compression rate shall be 100 per minute utilizing 30:2 compression to ventilation ratio for synchronous CPR prior to placement of advanced airway.~~
 - ~~Ventilatory volumes shall be sufficient to cause adequate chest rise.~~
- Place patient on AED. To minimize the “hands off” interval before a rhythm analysis/shock, complete chest compression cycle without an added pause for ventilations or pulse check just before rhythm analysis.

- If shock is advised, perform HP CPR compressions while AED is charging. Remove hands from patient and deliver shock then immediately resume uninterrupted HP CPR for two (2) minutes.
- Do not delay HP CPR for post-shock pulse check or a rhythm analysis.
- After two (2) minutes of HP CPR, analyze rhythm using AED while checking for pulse. CPR is **not** to be interrupted except briefly for rhythm assessment.

III. LIMITED ALS (LALS) INTERVENTIONS

- Perform activities identified in the BLS interventions.
- ~~Initiate CPR while applying the AED.~~
- Establish peripheral intravenous access and administer a 500 ml bolus of normal saline (NS).
- ~~BLS airway with BVM is the airway of choice during active HP CPR. If BVM is adequate continue its use as advanced airway is not recommended. Establish advanced airway when resources are available, with minimal interruption to chest compressions. After advanced airway established, compressions would then be continued at 100 per minute without pauses during ventilations.~~
- ~~If BLS airway cannot be maintained and the need for an advanced airway is present, establish with no interruption to HP CPR per ICEMA Reference #10190 Procedure Standard Orders.~~
- ~~After if advanced airway is established, compressions would then be continued at 100 per minute without pauses during ventilations and begin asynchronous CPR. Ventilations should be given at a rate of one (1) breath every six (6) to eight (8) seconds.~~
- ~~Establish peripheral intravenous access and administer a 500 ml bolus of normal saline (NS).~~
- ~~Refer to ICEMA Reference #12010 Determination of Death on Scene.~~

~~**NOTE:** Base hospital contact is required to terminate resuscitative measures.~~

IV. ALS INTERVENTIONS

- Perform activities identified in the BLS and LALS Interventions.
- Initiate HP CPR while applying the cardiac monitor without interruption to chest compressions.
- Determine cardiac rhythm and defibrillate if indicated. After defibrillation, immediately began HP CPR. Begin a two (2) minute cycle of HP CPR.
- Obtain IV/IO access.
- ~~Establish advanced airway when resources are available, with minimal interruption to chest compressions. After advanced airway established, compressions would then be continued at 100 per minute without pauses during ventilations. Ventilations should be given at a rate of one (1) breath every six (6) to eight (8) seconds.~~
- Utilize continuous quantitative waveform capnography, for ~~confirmation and~~ monitoring of patients airway, the effectiveness of chest compressions and for early identification of ROSC. ~~endotracheal tube placement and for assessment of ROSC and perfusion status.~~ Document the waveform shape of the wave and the capnography number in mm_HG in the ePCR.

NOTE: Capnography shall be used for all cardiac arrest patients.

- Insert NG/OG tube to relieve gastric distension per ICEMA Reference #10190 - Procedure - Standard Orders.
- ~~If sustained ROSC is achieved, obtain a 12-lead ECG and contact a STEMI base hospital and transport to a SRC, refer to ICEMA Reference #8130—Destination Policy.~~
- ~~Utilize continuous waveform capnography, to identify loss of circulation.~~
- ~~Base hospital physician may order additional medications or interventions as indicated by patient condition.~~

Ventricular Fibrillation/Pulseless Ventricular Tachycardia

- Defibrillate at 360 joules for monophasic or biphasic equivalent per manufacture. If biphasic equivalent is unknown use maximum available.
- Perform HP CPR immediately after each defibrillation for two (2) minutes, ~~after each defibrillation,~~ without ~~delaying to~~ assessing the post-defibrillation rhythm.

- Administer Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders every five (5) minutes, without interruption of HP CPR during each two (2) minute cycle of CPR after every defibrillation unless capnography indicates possible ROSC.
- Reassess rhythm for no more than ten (10) seconds after each two (2) minute cycle of HP CPR. If VF/VT persists, defibrillate as above.
- After two (2) cycles of HP CPR, consider administering:

Lidocaine per ICEMA Reference #7040 - Medication - Standard Orders, may repeat.
- If patient remains in pulseless VF/VT after 20 minutes five (5) cycles of CPR, consult base hospital.

Pulseless Electrical Activity (PEA) or Asystole

- Assess for reversible causes and initiate treatment.
- Continue HP CPR with evaluation of rhythm (no more than 10 seconds) every two (2) minutes.
- Administer fluid bolus of 300 ml NS IV, may repeat.
- Administer Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders every 5 (five) minutes during each two (2) minute cycle of CPR after each rhythm evaluation without interruption of HP CPR.

Stable ROSC

- Obtain a 12-lead ECG, regardless of 12-lead ECG reading, transport to the closest STEMI Receiving Center, per ICEMA Reference #8130 - Destination Policy.
- Monitor ventilation to a capnography value between 35 mm Hg and 45 mm Hg.
- Utilize continuous waveform capnography to identify loss of circulation.
- For persistent profound shock and hypotension, administer Push Dose Epinephrine per ICEMA Reference # 7040 - Medication - Standard Orders.

Termination of Efforts in the Prehospital Setting

- The decision to terminate efforts in the field should take into consideration, first, the safety of personnel on scene, and then family and cultural considerations.
- Consider terminating resuscitative efforts in the field if ~~ALL~~ any of the following criteria are met after 20 minutes of HP CPR with ALS Interventions:
 - No shocks were delivered.
 - Arrest not witnessed by EMS field personnel.
 - No ROSC after a minimum of ten (10) minutes of advance cardiac life support (ACLS).
 - Capnography waveform reading less than 15 mm Hg.
 - Persistent asystole, agonal rhythm or pulseless electrical activity (PEA) at a rate of less than 40 bpm.
- If patient has any signs of pending ROSC (i.e., capnography waveform trending upwards, PEA greater than 40 bpm), then consider transportation to a STEMI Receiving Center.
- Contact local law enforcement to advise of prehospital determination of death.
- Provide comfort and care for survivors.
- ~~Base hospital contact is required to terminate resuscitative measures. A copy of the ECG should be attached to the patient care report for documentation purposes.~~

V. REFERENCES

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders
8130	Destination Policy
10190	<u>Procedure - Standard Orders</u> ICEMA Approved Skills
12010	Determination of Death on Scene



STROKE TREATMENT - ADULT

I. FIELD ASSESSMENT/TREATMENT INDICATORS

Patient exhibiting signs/symptoms of a possible stroke. These signs may include: speech disturbances, altered level of consciousness, parasthesias, new onset seizures, dizziness unilateral weakness and visual disturbances.

II. BLS INTERVENTIONS

- Obtain patient oxygen saturation on room air. Titrate oxygen if clinically indicated, to maintain an oxygen saturation of 94% per ICEMA Reference #7040 - Medication - Standard Orders.
- Obtain blood glucose.

III. LIMITED ALS (LALS)/ALS INTERVENTIONS

- Perform activities identified in the BLS Interventions.
- Obtain vascular access.
- ~~Obtain blood glucose.~~
- **Modified Los Angeles County Prehospital Stroke Screen (mLAPSS):** A screening tool used by EMS field personnel to assist in identifying patients who may be having a stroke.

mLAPSS Criteria: The patient is **mLAPSS positive**, if “yes” on Criteria #1 - 4 and exhibits unilateral weakness on Criteria #6.

mLAPSS Criteria	Yes	No	
1. Age over 17 years?			
2. No prior history of seizure disorder?			
3. New onset of neurologic symptoms in last 24 hours?			
4. Patient was ambulatory at baseline prior to event?			
5. Blood glucose between 60 and 400?			
6. Exam (<i>look for obvious asymmetry</i>):	<u>Normal-</u> <u>Bilaterally</u>	<u>Right</u>	<u>Left</u>
• Facial Smile/Grimace	<input type="checkbox"/>	<input type="checkbox"/> Droop	<input type="checkbox"/> Droop

		<input type="checkbox"/> Normal	<input type="checkbox"/> Normal
• Grip	<input type="checkbox"/>	<input type="checkbox"/> Weak Grip <input type="checkbox"/> Normal	<input type="checkbox"/> Weak Grip <input type="checkbox"/> Normal
	<input type="checkbox"/>	<input type="checkbox"/> No Grip <input type="checkbox"/> Normal	<input type="checkbox"/> No Grip <input type="checkbox"/> Normal
• Arm Weakness	<input type="checkbox"/>	<input type="checkbox"/> Drifts Down <input type="checkbox"/> Normal	<input type="checkbox"/> Drifts Down <input type="checkbox"/> Normal
		<input type="checkbox"/> Falls Down Rapidly <input type="checkbox"/> Normal	<input type="checkbox"/> Falls Down Rapidly <input type="checkbox"/> Normal

- ~~Ask when “last seen normal” or without stroke symptoms.~~
- ~~If “last seen normal” plus transport time is greater than twelve (12) hours, transport to the closest receiving hospital.~~
- ~~If “last seen normal” plus transport time is less than twelve (12) hours, or a “wake-up stroke”, transport to closest NSRC.~~
- ~~If patient is mLAPSS positive, use LAMS the following scoring tool to determine the stroke severity.~~
- **Los Angeles Motor Score (LAMS):** A scoring tool used by EMS providers to determine the severity of stroke on patients who are mLAPSS positive. If the total LAMS score is four (4) or greater, consider Large Vessel Occlusion (LVO).

<u>LAMS Score Criteria</u>		
<u>FACE</u>	<u>0</u>	<u>Both sides move normally</u>
	<u>1</u>	<u>One side is weak or flaccid</u>
<u>ARM</u>	<u>0</u>	<u>Both sides move normally</u>
	<u>1</u>	<u>One side is weak</u>
	<u>2</u>	<u>One side is flaccid/does not move</u>
<u>GRIP</u>	<u>0</u>	<u>Both sides move normally</u>
	<u>1</u>	<u>One side is weak</u>
	<u>2</u>	<u>One side is flaccid/does not move</u>
<u>TOTAL SCORE</u>		

- ~~Ask when “last seen normal” or without stroke symptoms.~~
- If “last seen normal” plus transport time is less than 24 hours, or a “wake-up stroke”, transport to closest- Stroke Receiving Center.~~NSRC.~~
- ~~If “last seen normal” plus transport time is greater than 24 hours, transport to the closest receiving hospital.~~

- ~~In San Bernardino County, if Stroke Scale is positive, initiate “Stroke Alert”, contact NSRC base hospital and transport immediately.~~
- If mLAPSS negative and stroke is still suspected, ~~consult~~ Stroke receiving NSRC base hospital for destination.
- To ensure that there is no delay in treatment Obtain and document on scene family phone number.
 - If family member is not present, it is recommended that the EMS field personnel bring the patients cell phone.
- Consider 12-lead ECG (ALS only).
- **Thrombolytic Assessment:** If time is available, and the patient or family can provide the information, assess the patient using the criteria listed below and report to ED personnel:

Thrombolytic Assessment Criteria	Yes	No
Onset greater than <u>4.5</u> hours?		
History of recent bleeding?		
Use of anticoagulant?		
Major surgery or serious trauma in the previous fourteen (14) days?		
Sustained systolic blood pressure above 185 mm Hg?		
Recent stroke or intracranial hemorrhage?		

IV. REFERENCE

Number Name
 7040 Medication - Standard Orders



DETERMINATION OF DEATH ON SCENE

I. PURPOSE

To identify situations when an EMT, AEMT or EMT-P may be called upon to determine death on scene.

II. POLICY

An EMT, AEMT or EMT-P may determine death on scene if **pulselessness and apnea** are present with any of the following criteria. The EMT-P is authorized to discontinue BLS CPR initiated at scene if a patient falls into the category of obvious death. ~~If any ALS procedures are initiated, only the base hospital physician/designee may determine death in the field.~~ In any situation where there may be doubt as to the clinical findings of the patient, BLS CPR must be initiated and the base hospital contacted, ~~refer to ICEMA Reference #12020 – Withholding Resuscitate Measures.~~ When death is determined, the County Coroner must be notified along with the appropriate law enforcement agency.

III. DETERMINATION OF DEATH CRITERIA

- Decomposition.
- Obvious signs of rigor mortis such as rigidity or stiffening of muscular tissues and joints in the body, which occurs any time after death and usually appears in the head, face and neck muscles first.
- Obvious signs of venous pooling in dependent body parts, lividity such as mottled bluish-tinged discoloration of the skin, often accompanied by cold extremities.
- Decapitation.
- Incineration of the torso and/or head.
- Massive crush injury.
- Penetrating injury with evisceration of the heart, and/or brain.
- Gross dismemberment of the trunk.

VI. PROCEDURES/SPECIAL CONSIDERATIONS

- ~~• If the patient does not meet the Determination of Death criteria, appropriate interventions must be initiated.~~
- ~~• Resuscitation efforts shall not be terminated en route per Government Code 27491. The patient will be transported to the closest facility where determination of death will be made by hospital staff.~~
- ~~• Most victims of electrocution, lightning and drowning should have resuscitative efforts begun and transported to the appropriate Hospital/Trauma Center.~~
- ~~• Hypothermic patients should be treated per ICEMA Reference #13030—Cold Related Emergencies, under Severe Hypothermia.~~
- ~~• A DNR report form must be completed, if applicable, refer to ICEMA Reference #12020—Withholding Resuscitative Measures.~~

- **San Bernardino County Only:**

A copy of the patient care report must be made available for the Coroner. This will be transmitted to them, when posted, if the disposition is marked “Dead on Scene” and the Destination is marked “Coroner, San Bernardino County” on the electronic patient care report (ePCR). ~~If unable to post, a printed copy of the ePCR, OIA or a completed Coroners Worksheet of Death must be left at the scene.~~ The completed ePCR ~~or OIA~~ must be posted ~~or faxed~~ to the Coroner before the end of the shift.

LIMITED ALS (LALS) PROCEDURE

- All terminated LALS resuscitation efforts must have an AED event record attached to the ePCR~~patient care report~~.
- ~~• All conversations with the base hospital must be fully documented with the name of the base hospital physician who determined death, times and instructions on the patient care report.~~

ALS PROCEDURE

- All patients in ventricular fibrillation should be resuscitated on scene until ROSC is achieved. If patient remains in VF/VT after 20 minutes of CPR, consult base hospital and transported unless otherwise determined by the base hospital physician/designee.
- Severe blunt force trauma, pulseless, without signs of life (palpable pulses and/or spontaneous respirations) and cardiac electrical activity less than 40 bpm or during EMS encounter with the patient meets Determination of

Death criteria. All terminated ALS resuscitation efforts must have an ECG attached to the patient care report.

- ~~• All conversations with the base hospital must be fully documented with the name of the base hospital physician who determined death, times and instructions on the patient care report.~~
- Consider termination of resuscitation efforts in the prehospital setting if any of the criteria are met in the ICEMA Reference #11070 - Cardiac Arrest - Adult.

IV. SUSPECTED SUDDEN INFANT DEATH SYNDROME (SIDS) INCIDENT

It is imperative that all EMS field personnel be able to assist the caregiver and local police agencies during a suspected SIDS incident.

PROCEDURE

- Follow individual department/agency policies at all times.
- Ask open-ended questions about incident.
- Explain what you are doing, the procedures you will follow, and the reasons for them.
- If you suspect a SIDS death, explain to the parent/caregiver what SIDS is and, if this is a SIDS related death nothing they did or did not do caused the death.
- Provide the parent/caregiver with the number of the California SIDS Information Line: **1-800-369-SIDS (7437)**
- Provide psychosocial support and explain the emergency treatment and transport of their child.
- Assure the parent/caregiver that your activities are standard procedures for the investigation of all death incidents and that there is no suspicion of wrongdoing.
- Document observations.

V. REFERENCES

<u>Number</u>	<u>Name</u>
11070	Cardiac Arrest - Adult
12020	End of Life Care and Decisions Withholding Resuscitative Measures
13030	Cold Related Emergencies



CARDIAC ARREST - PEDIATRIC (Less than 15 years of age)

High performance (HP) CPR is an organized approach to significantly improve the chance of survival for patients who suffer an out-of-hospital cardiac arrest (OHCA). Return of spontaneous circulation (ROSC) is resumption of sustained perfusing cardiac activity associated with significant respiratory effort after cardiac arrest. Signs of ROSC include breathing, coughing, patient movement and a palpable pulse or a measurable blood pressure.

The principles for HP CPR include:

- Minimize interruptions of chest compressions.
- Compression rate shall be between of 100 - 120 per minute allowing full chest recoil at a depth of at least one third the anteroposterior diameter of the chest until the age of puberty.
- Avoid compressor fatigue by rotating compressors every 2 (two) minutes
- Avoid hyperventilation as it can decrease survival.
- Ventilate at a rate of 12 - 20 per minute. Ventilation rate decreases as patient age increases. Volumes shall be the minimum necessary to cause chest rise.

Advanced airways can be safely delayed in OHCA patients until ROSC is achieved if the airway is effectively managed by BLS measures. BVM offers excellent oxygenation and ventilation without disrupting high quality compressions.

Whenever possible, provide family members with the option of being present during the resuscitation of an infant or a child. For any termination of efforts, base hospital contact is required.

I. FIELD ASSESSMENT/TREATMENT INDICATORS

Cardiac arrest in a non-traumatic setting. Consider the potential causes of arrest for age.

II. BLS INTERVENTIONS

- Assess patient, ~~maintain appropriate airway;~~ begin HP CPR, and maintain appropriate BLS airway measures according to current AHA Guidelines.
- ~~➤ Ventilate at rate of 12 to 20 per minute. Ventilatory rate will decrease as patient age increases. Ventilatory volumes shall be the minimum necessary to cause chest rise.~~
- ~~➤ Compression rate shall be a minimum of 100 per minute.~~

- ~~• If suspected narcotic overdose with severely decreased respiratory drive administer Naloxone per ICEMA Reference #7040 Medication Standard Orders.~~
- Obtain and assess blood glucose level. If indicated administer Glucose Oral per ICEMA Reference #7040 Medication Standard Orders.
- If patient one is (1) year of age or older, utilize AED. To minimize the “hands off” interval before a rhythm analysis/shock, complete chest compressions cycle, without an added pause for ventilations or pulse check just before rhythm analysis.
- If shock is advised, perform HP CPR compressions while AED charging. Remove hands from patient and deliver shock then immediately resume uninterrupted HP CPR for two (2) minutes.
- Do not delay HP CPR for post-shock pulse check or a rhythm analysis.

III. LIMITED ALS (LALS) INTERVENTIONS

- Perform activities identified in the BLS Interventions.
- Initiate HP CPR while applying the AED.
- ~~• Follow the instructions from the AED to determine if shock is advised.~~
- Obtain IO/IV access (IO is preferred for under nine (9) years of age).
- ~~Establish King Airway device when resources are available with minimal interruption to CPR per ICEMA Reference #10190 Procedure Standard Orders. If unsuccessful, continue with BLS airway management and transport to the nearest receiving hospital.~~
- For continued signs of inadequate tissue perfusion, administer fluid bolus of NS. Reassess after each bolus. May repeat two (2) times for continued signs of inadequate tissue perfusion. ~~In radio communications failure (RCF), may give two (2) additional fluid boluses if indicated.~~
 - 1 day to 8 years: 20 ml/kg NS
 - 9 to 14 years: 300 ml NS
- ~~• Obtain blood glucose level, if indicated administer:~~
 - ~~➤ Administer Dextrose as per ICEMA Reference #7040 Medication Standard Orders.~~

- ~~➤ Reassess blood glucose level. Repeat Dextrose per ICEMA Reference #7040 Medication Standard Orders if indicated.~~
- ~~➤ If unable to start an IV, administer Glucagon per ICEMA Reference #7040 Medication Standard Orders.~~

IV. ALS INTERVENTIONS

- Perform activities identified in the BLS and LALS Interventions.
 - Initiate HP CPR while applying the cardiac monitor without interruption to chest compressions.
 - Determine the cardiac rhythm and defibrillate at 2 j/kg (or manufacturer's recommended equivalent) if indicated. After defibrillation, immediately resume HP CPR. Begin a two (2) minute cycle of HP CPR.
 - Obtain IO/IV access (IO is preferred).
 - Utilize continuous quantitative waveform capnography, for monitoring of patients airway, the effectiveness of chest compressions and for early identification of ROSC. Document the waveform and the capnography number in mm Hg in the ePCR.
 - Continue with BLS airway management ensuring adequate ventilations.
 - BLS airways should be maintained during active CPR. Endotracheal intubation is advanced airway of choice in the setting of ROSC or if BLS airway does not provide adequate ventilation. Per ICEMA Reference #10190 - Procedure - Standard Orders, endotracheal intubation may only be performed on patients who are taller than maximum length of a pediatric emergency measuring tape (Broselow, etc.) or equivalent measuring from the top of the head to the heel of the foot. If BLS airway cannot be maintained and the need for an advanced airway is present, establish endotracheal intubation when recourses are available, with minimal no interruption to HP CPR per ICEMA Reference #10190 - Procedure - Standard Orders for patients who are taller than the maximum length of a pediatric emergency measuring tape (Broselow, etc.) or equivalent measuring from the top of the head to the heel of the foot.
- NOTE: Capnography shall be used for all cardiac arrest patients.
- Insert NG/OG tube per ICEMA Reference #10190 - Procedure - Standard Orders. after advanced airway is established or if not placed with BLS airway.
 - ~~Continue CPR with compressions at a minimum of 100 per minute without pauses during ventilations. Ventilations should be given at a rate of one (1) breath every six (6) to eight (8) seconds.~~

- ~~Utilize continuous quantitative waveform capnography, to confirm the effectiveness of chest compressions and for identification of ROSC.~~

Ventricular Fibrillation/Pulseless Ventricular Tachycardia

- Initial defibrillation is administered at 2 j/kg (or manufacturer's recommended equivalent). Second defibrillation is administered at 4 j/kg. Third and subsequent defibrillation attempts should be administered at 10 j/kg not to exceed the adult dose.
- Perform HP CPR immediately after each defibrillation for two (2) minutes without ~~delaying to~~ assessing the post-defibrillation rhythm.
- Administer Epinephrine, per ICEMA Reference #7040 - Medication - Standard Orders every five (5) minutes, without interruption of HP CPR, ~~during each two (2) minute cycle of CPR after each defibrillation~~ unless capnography indicates possible ROSC.
- Reassess rhythm for no more than 10 seconds after each two (2)-~~minute~~ cycles of HP CPR. If VF/VT persists, defibrillate as indicated above.
- After two (2) cycles of HP CPR, consider administering Lidocaine per ICEMA Reference #7040 - Medication - Standard Orders, may repeat.
- If patient remains in pulseless VF/VT after ~~five (5) cycles~~ 20 minutes of HP CPR, consult base hospital.

Pulseless Electrical Activity/Asystole

- Assess for reversible causes and initiate treatment.
- Continue HP CPR with evaluation of rhythm (no more than 10 seconds) every two (2) minutes.
- Administer initial fluid bolus of 20 ml/kg NS for all ages, may repeat at:
 - 1 day to 8 years: 20 ml/kg NS
 - 9 to 14 years: 300 ml NS
- Administer Epinephrine, per ICEMA Reference #7040 - Medication - Standard Orders every five (5) minutes without interruption of HP CPR, ~~during each two (2) minute cycle of CPR after each rhythm evaluation.~~

Treatment Modalities for Managing Pediatric Cardiac Arrest Patient

~~Whenever possible, provide family members with the option of being present during the resuscitation of an infant or a child. For any termination of efforts, base hospital contact is required.~~

- ~~• Insert NG/OG tube to relieve gastric distention if the patient has an advanced or BLS airway per ICEMA Reference #10190 Procedure Standard Orders.~~
- ~~• For continued signs of inadequate tissue perfusion, administer fluid bolus of NS. Reassess after each bolus. May repeat two (2) times for continued signs of inadequate tissue perfusion. In RCF, may give two (2) additional fluid boluses if indicated.~~
 - ~~➤ 1 day to 8 years: 20 ml/kg NS~~
 - ~~➤ 9 to 14 years: 300 ml NS~~
- ~~• Obtain blood glucose level. If indicated administer:~~
 - ~~➤ Dextrose per ICEMA Reference #7040 Medication Standard Orders.~~
 - ~~➤ May repeat blood glucose level. Repeat Dextrose per ICEMA Reference #7040 Medication Standard Orders if indicated.~~
- ~~• For suspected opiate overdose, administer Naloxone per ICEMA Reference #7040 Medication Standard Orders.~~

If **Stable ROSC** is achieved,

- Obtain a 12-lead ECG and transport to the closest receiving hospital.
- Utilize continuous waveform capnography, to identify loss of circulation.
- Obtain blood glucose level. If indicated administer:
 - Dextrose per ICEMA Reference #7040 - Medication - Standard Orders.
 - May repeat blood glucose level. Repeat Dextrose per ICEMA Reference #7040 - Medication - Standard Orders if indicated.
- For suspected opiate overdose, administer Naloxone per ICEMA Reference #7040 - Medication - Standard Orders.
- For continued signs of shock and hypotension with SBP of less than 70 mm Hg inadequate tissue perfusion **after** successful resuscitation administer Push Dose Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders.

- Base hospital physician may order additional medications or interventions as indicated by patient condition.

V. REFERENCES

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders
10190	Procedure - Standard Orders